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# Career Experiences of AFIT Classes of 1955 and 1956

By

Francis D. Harding  
Robert L. Downey, Jr., 1st Lt, USAF  
Robert A. Bottenberg

Technical Documentary Report PRL-TDR-63-9

April, 1963

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6570TH PERSONNEL RESEARCH LABORATORY,  
AEROSPACE MEDICAL DIVISION  
AIR FORCE SYSTEMS COMMAND,  
Lockland Air Force Base, Texas

Project 6755, Task 675501

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## ABSTRACT

To determine the utilization, attitudes, and retainability of officers who participate in AFIT programs, a questionnaire survey was made of the 1955 and 1956 classes. Returns from 82% of the 1380 officers still in service and 62% of the 387 who had left it provided information about training, career experience, and attitude toward the Air Force. Responses showed that those apt to remain in service were older, married, regular officers. Younger officers who were ROTC graduates assigned to engineering and scientific fields were likely to leave the service. Most frequent reasons given for leaving the Air Force were: promotions not based on merit; better civilian job opportunities; low pay; and unsettled family life. In-service officers' reasons for remaining were retirement advantages and amount of time already invested. They might decide to leave for a high-paying civilian job, loss of flight pay, or missing out on promotion. Nonmonetary aspects of the work situation were important determiners of job satisfaction. A Retention Potential Score, using information available before AFIT assignment, applied as a screening device would appreciably increase the retention of AFIT graduates.

This report has been reviewed and is approved.

Fred E. Holdrege, Col, USAF  
Commander

A. Carp  
Technical Director

Hq 6570th Personnel Research Laboratory

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## CAREER EXPERIENCES OF AFIT CLASSES OF 1955 AND 1956

Every year the Air Force provides college training for some of its officers. The purpose of this training is to insure that Air Force officers have the necessary scientific and managerial skills to accomplish their increasingly complex mission. Much of this educational effort is conducted by the Air Force Institute of Technology (AFIT). This report describes a survey which was made of the 1955 and 1956 participants in that program. An earlier study of the 1954 AFIT students indicated certain differences between those students who subsequently left the Air Force and those who remained in service (Trites & Cyzmoure, 1960). As a result of that study several suggestions of possible methods for improving the retainability of these officers were made. Among the more important suggestions were: requiring active service prior to attending AFIT; increasing length of obligated service and assignments after AFIT; and making the pay more competitive with civilian industry. The purpose of this report is to describe a similar survey of the next two classes in which additional information relative to the retainability of the graduates was obtained.

### 1. PROCEDURE

#### *Sample*

Questionnaires were mailed to 1767 members of the 1955 and 1956 classes. Of this total number, 1380 were still in service while 387 had left the Air Force. Usable replies were obtained from 1141 (82 percent) of the in-service group; 241 (62 percent) of the out-of-service cases completed their questionnaires.

#### *Questionnaires*

Copies of the questionnaires that were used are shown in Appendix I. In general, the information requested was similar to that collected in the earlier survey. It covered the graduates' education and service backgrounds prior to entering the AFIT program, the type of training received and their careers since completing their training. In addition, the officers were asked to express opinions about their training, career opportunities, and why they remained in or left the service. Students who had left the Air Force were asked to compare life as a civilian with a service career.

### 2. RESULTS

#### *Pre-AFIT Experience*

Descriptive information about the officers who comprised the 1955 and 1956 AFIT classes is shown in Appendix II, Tables 1 to 6. While differences between officers who remained in the Air Force and those who left the service are quite apparent in the figures being presented, only passing comment will be made about them here, as a detailed analysis of the differences will be presented in a later section of this report.

*Military grade (Table 1).* A majority (57 percent) of the entering students were either captain or major while another 34 percent were evenly divided between the first and second lieutenant grades. Second lieutenants had the lowest retention rate. However, 72 of the 144 second lieutenants who left the service were in the weather career field. Because of special

conditions surrounding this particular career area, a high attrition rate was expected. For this reason officers in the weather career area are treated separately in the later analyses.

*Length of Service (Table 2).* More than half of the entering students had been commissioned during or prior to World War II. In terms of active federal military service, 32 percent had more than 10 years of service, 68 percent had over 5 years while 17 percent had less than a year of active duty.

*Source of Commission (Table 3).* The aviation cadet program was the largest commissioning source of individuals included in the study with almost half of the group having come from that program. An additional 27 percent had graduated from the ROTC program while Officer Candidate School and the service academies were the next most productive sources.

*Command assignment (Table 4).* The Air Force Systems Command furnished the most students to the two classes, approximately 15 percent. Other leading contributors of the students were Military Air Transport Service and Air Training Command. The large number of students listing Air University as their command was because officers who entered AFIT directly from civilian life were assigned to Air University.

*Education (Table 5).* Eighty-three percent of the officers had achieved at least a college degree at the time they entered AFIT. Of this number 62 percent held degrees in scientific and engineering subjects; 32 percent of these scientists and engineers subsequently left the service.

*Flying status (Table 6).* Among the 1382 officers who responded to the questionnaire, 628 or 45 percent were on flying status at the time they entered AFIT. The subsequent attrition rates for those on flying status and those not on flying status were 5 and 28 percent, respectively.

#### *AFIT Training (Tables 7-9)*

*Location (Table 7).* The greatest portion of AFIT training was done at civilian institutions (70 percent). Only 6 percent of the students took part in the training-with-industry program. The remaining 24 percent carried out their studies in residence at Wright-Patterson Air Force Base.

*Program (Table 8).* Forty-three percent of the students were in the engineering and science programs while 31 percent were in the management and social science areas. Meteorology students comprised 13 percent of the enrollment with the remainder in the training-with-industry and other special programs.

*Educational status attained (Table 9).* Excluding the meteorology students, 69 percent of the out-of-service group and 51 percent of the in-service group received advanced degrees. In the in-service group, 41 percent of the students who entered AFIT with a bachelors degree received a master's degree as a result of their training. Of the out-of-service students, 43 percent had the same experience. There were 107 advanced degrees received by the out-of-service group, 84 percent of which were in science or engineering. Of the 536 advanced degrees received by the in-service group, 40 percent were in engineering or science.

#### *Post-AFIT Assignment (Tables 10-12)*

The commands to which the respondents were assigned after the completion of their AFIT training are shown in Tables 10 and 11. Systems, MATS, and Logistics commands were the major recipients, obtaining 54 percent of the output for the two classes. As would be expected, certain commands were the chief users of certain types of students. For instance, Systems Command received the majority of the students who majored in science and engineering, while the Military Air Transport Service received 163 of the 184 meteorology students. However, the large number of business administration and management majors were spread throughout the Air Force with Logistics, Systems, and Headquarters USAF the major recipients.

After completing AFIT, two-thirds of the officers were on their first assignment less than three years before receiving a permanent change of station. The officers who got out of the service tended to spend less time in an assignment than did those who stayed in.

*Attitudes and Opinions of Respondents (Tables 13-21)*

*Use of AFIT training (Table 13).* A majority of both groups of officers felt that the positions to which they were assigned immediately after AFIT made use of their AFIT training. Only about 35 percent felt that the positions utilized their training no more than to a limited extent. When queried about how their second assignment after AFIT, or for those who left the service their present job, utilized their AFIT training, the results were much the same as when asked about their first assignment.

*Satisfaction with first assignment (Table 14).* In terms of being satisfied with the type of work to be performed while in their first assignment after AFIT, the officers who remained in service expressed about the same degree of satisfaction as did those who left the service. About three-fourths of each group were very much or quite satisfied with the type work they were doing. This fairly high degree of job satisfaction for those officers who left the service may indicate that this facet of the work situation may not be an important factor in deciding whether or not to leave the Air Force. The fact that career decisions are based on variables not related to the immediate job is also borne out by the reasons given for leaving the Air Force which will be discussed shortly.

*Attitude toward pay and fringe benefits.* Several questions in the survey asked the officers' opinions of how the Air Force could be made more attractive or effective. One question dealt with the relative value of an increase in pay or fringe benefits which would make the Air Force more attractive for officers. Seventy-four percent of the respondents felt that an increase in pay would be most beneficial. Also, there was a significant difference between the in- or out-of-service respondents in their answers to this question. The in-service group was more favorably inclined toward increases in fringe benefits than were the out-of-service group. However, the fact that there was overwhelming support for the pay increases has obvious implications for policy makers when action to improve the retention of officers is being considered.

*Attitude toward AFIT training (Table 15).* Did participating in the AFIT program help an officer in terms of his career? Eighty-four percent of the respondents felt that AFIT training helped their careers. More of the out-of-service group (23 percent) felt that participation in the program either made no difference or was harmful than did the in-service group (13 percent).

In terms of officer preference, the most popular times for an officer to attend AFIT were either after his initial tour or after five to seven years of active duty. Not surprisingly, the out-of-service group felt that earlier attendance would be more desirable.

By regulation the Air Force imposes certain active duty commitments on officers participating in the AFIT program. For most AFIT programs this is usually four years after completion of their schooling. What do the 1955 and 1956 students feel is a reasonable service commitment? Slightly more than half feel that three years or less would be a reasonable commitment. Three years was the most popular choice for both the in-service and out-of-service groups. As for suggestions as to how the Air Force could improve or facilitate AFIT training, the most frequently mentioned were that the student be allowed to stay in school longer and that he be given more choice in choosing courses or schools. A request for more practical application and less theory was often mentioned by those who had left the Air Force. This was probably accounted for by the large proportion of these individuals who were weather officers and their suggestions may have been colored by conditions peculiar to that particular career field.

*Reasons for leaving the Air Force (Table 16).* The officers who had left the Air Force were asked why they had left. By far the most popular reasons for leaving (mentioned by 25 percent of the respondents) was that promotions are not based on merit. This desire to get ahead at a pace based on their own initiative and actions was evident in several of the other reasons which were mentioned frequently. These reasons were: no recognition of professional work (9 percent); poor promotion prospects (5 percent); and could get a better job as a civilian (14 percent). Inadequate pay was mentioned by 12 percent of the group. Poor utilization of an individual's talents was perceived by several of the group as the reason why they left the Air Force. The obstacles faced by an officer in his efforts to settle down and establish family and community ties were also important reasons for leaving. Generally, the reasons given were similar to the dissatisfactions expressed by technical and professional personnel in other studies (Deutsch and Shea, Inc., 1961). These are: better opportunities elsewhere, lack of growth potential, and frustrations caused by personnel policies. The fact that low pay rated in the same relative position as when engineers were asked why they leave one company for another is interesting. In those situations it was felt that financial gain was played down for fear of being labeled too materialistic. However, among officers it is an acknowledged fact that appreciably more money is paid for similar work performed in a civilian capacity. This being so, there should have been no restraints on giving more money as a reason for leaving the Air Force. The fact that nonfinancial aspects of the work situation were considered more important or as important as low pay further emphasized the possibility of improving the retention of technical personnel through improved personnel policies.

*Post-separation employment (Tables 17-19).* How well have the ex-officers fared since leaving the Air Force? Their employment has been fairly stable; two-thirds of them have had only one job while another 25 percent have had two jobs, and 75 percent claim to be making more money than they would if they had remained in the Air Force. They seem to have found in their present jobs the attributes which they indicate influenced their decisions to leave the Air Force. Table 18 indicates that respect for and promotion on the basis of ability ranked high as examples of how their present employer treats them as compared to the Air Force. More personal freedom was mentioned as another difference. Again increased remuneration was mentioned less often than personal freedom and utilization of ability.

Table 19 shows that it would take complete mobilization to get most of the ex-officers back in the Air Force. Other conditions mentioned were, in order of frequency: more pay; choice of assignment; promotion on basis of ability; and more responsibility.

*Reasons for staying in service (Tables 20, 21).* While it is useful to know why officers leave the service, it is probably more important to know what influences an individual to remain in the Air Force. The in-service officers were asked to give the main reasons for their staying in the Air Force at this point in their careers. The most frequently mentioned reason was concerned with retirement possibilities. Next came an acknowledgment that they had too much time invested in their Air Force careers to throw it away. These two reasons probably refer to the same factor. Next most popular reasons were job satisfaction, a liking for military life, and interesting assignments. In general, the reasons expressed are a realistic appraisal of opportunities afforded by an Air Force career. After the obvious reference to retirement and length of service, satisfaction with the job and with military life and dedication to the service and to country are given as the principal rewards. Not surprisingly, financial considerations are conspicuous by their absence. However, when these officers were asked what would cause them to leave the service they placed money as the prime factor. They stressed high paying jobs with industry, loss of flight pay, and no opportunity for promotion. Table 21 shows that changes in policies related to retirement and other benefits were also mentioned as possible reasons for leaving the Air Force. In contrast, individuals who had

already left the Air Force didn't like the promotion possibilities and the stresses and strains that military service placed on family life. The still-in-service group, having adjusted to these two facets of Air Force life, consider pecuniary motives as the most likely reasons for their leaving the Air Force.

### 3. PREDICTING RETENTION AMONG AFIT STUDENTS

Twenty-two percent of the students comprising the 1955 and 1956 AFIT classes had left the Air Force since completing their training. Since the purpose of the AFIT program is to provide the Air Force with officers who are technically and scientifically trained, any loss of graduates is undesirable. While a certain amount of attrition must always be expected, it is still useful to study the data obtained from these classes in an effort to improve the utilization of AFIT trained officers.

Multiple regression analysis procedures were applied to the quantifiable data obtained from the questionnaires to determine the relationship between an officer's personal characteristics and the criterion variable of whether or not the officer remained in the Air Force. The types of information used in the analyses are shown in Table 22. The information is grouped according to the time it becomes available: before attending AFIT; during AFIT; after attending AFIT. Any relationships found between information that is available before attending AFIT and retention may be useful in selecting students. Relationships between after-AFIT information and the criterion could be useful in understanding the effect of different personnel practices.

In the analyses which were carried out, the officers who studied meteorology while at AFIT and later served in that career field were treated as a separate group. This is because they differed markedly from the other officers who responded to the survey. For example, the weather officers were mostly second lieutenants (74 percent), ROTC graduates (73 percent) who had little or no active duty experience. Since a large percentage (47) of this group left the service, had they been analyzed with the entire sample, they would have distorted the importance of the characteristics mentioned above as predictors of retainability in the Air Force.

#### *Non-Weather Officers*

The first analyses to be discussed are concerned with all officers except those in the weather career field. There were 1198 officers in this category, 5 of which were eliminated because of incomplete data, leaving a total of 1193. Of this number 141 had left the service by the time of the survey. The results of the multiple regression analyses are shown in Table 23. The squared multiple correlation ( $R^2$ ) between all the predictors and whether or not a respondent was still in the Air Force was fairly high.<sup>1</sup> Of much practical significance was the fact that the information available prior to entry into AFIT was almost as predictive as when all the information was used. The respective  $R^2$ s were .3258 and .3456. From a study of the weights given the various predictors it appears that individuals who were regular officers, older, married, and had received their commissions from OCS or aviation cadet training tended to remain in the Air Force more than did other officers.<sup>2</sup> Officers who were in scientific and

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<sup>1</sup> The inclusion within the out-of-service group of 21 officers who had retired rather than resigned tends to reduce the level of predictive efficiency which might have been expected if the retired cases had been removed from the analysis. It would seem on *a priori* grounds that the reasons which account for retirement differ from those which account for resignation. Thus the values presented here are conservative estimates of the equations' predictive efficiency.

<sup>2</sup> See regression equation, footnote 3, p. 7.

engineering career fields, or who were second lieutenants were more likely to leave the Air Force. These findings lend support to the suggestion of Trites & Cyzmoure (1960) that for better retention the Air Force should require a period of active duty before attendance at AFIT.

What effect events occurring after attendance at AFIT had on whether or not an officer remained in service was studied by computing a prediction equation in which only such variables were used. While the overall prediction was not as high as when all available information was used as predictors, the results are of some interest. For example, officers who were most likely to get out were those who possessed at least a master's degree in science or engineering and who were assigned to the Systems or Logistics commands. This result is to be expected, since such individuals possess very marketable skills and have more contact with the civilian economy than do other officers. Officers who had ample opportunity to fly and remained on their assignment longer were more likely to stay in the Air Force than other officers.

Does being in a certain career field rather than some other affect whether an AFIT student remains in the Air Force? To a certain degree the answer is "yes." Officers who had a Primary AFSC in the scientific and engineering career area at the time they entered AFIT were much more likely to leave the service.

Information related to flying status accounted for very little criterion variance even when used alone as predictors. When aero rating and flying status were used as predictors only 6 percent of the criterion variance was accounted for. As expected, nonrated officers tended to leave the Air Force more than did their rated colleagues.

When only educational characteristics of the officers were used as predictors the  $R^2$  was fairly low, only .0892. Officers who received training in science and engineering while attending AFIT and who possessed higher academic degrees at the time they entered training were more likely to leave the Air Force.

#### *Weather Officers*

Turning now to the analysis of the relationships which exist among the variables when the sample consists of only officers in the weather career area, we find that prediction of in or out of the Air Force is phenomenally high. There were 184 officers in this sample, 37 of which were eliminated because of incomplete data, leaving a total of 147. The multiple  $R^2$  when all variables were used as predictors was .7142, which represents a correlation of .85. The information which contributed most to the prediction was Regular-Reserve status and grade. Among this group, reserve second lieutenants were very likely to leave the service, and a majority of the sample fell into this category. Information available prior to entry into AFIT was almost as predictive; an  $R^2$  of .6711 was obtained using such data. When the predictive equation contained only data dealing with post-AFIT events it was found that officers who felt their work made use of their training, were allowed to stay in place a relatively long time, and who were more satisfied with their work, were likely to remain in service. In terms of educational variables it was found that students who had prior training in science and engineering academic areas and who had attained higher educational levels tended to get out of the Air Force. Officers who received master degrees or higher in meteorology while attending AFIT were more likely to remain in service.

#### *Retention Potential*

One application of the information obtained in the regression analysis should be in selecting candidates for the AFIT program. To illustrate how this could be done, a Retention Potential Score, based on information that would be available prior to entry into AFIT,

was computed for each of the 1955 and 1956 graduates except those who entered meteorology training. This predicted score resulted from an optimal weighting and combining of pertinent information about each officer. For this sample, the variables most heavily weighted were Regular-Reserve status, engineering or scientific primary AFSC, age, grade, and source of commission.<sup>3</sup>

Since the retention status of these officers is already known, it is possible to demonstrate how the Retention Potential Score could be used as a selection device. Table 24 shows the distribution of predicted scores for this sample of officers. For this analysis, those who retired from service were eliminated from the sample.

The officers who remained on active duty generally had higher scores than those who left the service. For example, 99 percent of the "in" group had scores of 50 or higher while 46 percent of the "out" group had scores below 50.

Retention Potential Scores were also computed for the weather officer sample.<sup>4</sup> The results are presented in Table 25.

As Table 25 illustrates, 91 percent of the "in" group had scores of 30 or higher, while 96 percent of the "out" group had scores below this level. Thus it can be seen that if a favorable selection ratio exists it would be possible to greatly improve the retention of graduates of the AFIT weather training program.

In appraising the effectiveness of the Retention Potential Score as a screening device, it must be pointed out that both sets of predicted scores were generated on the data used to compute the regression weights, not on a cross-validation sample. When applied to a different sample, a certain amount of shrinkage in predictive efficiency is to be expected. However, the present findings are significant enough to warrant further investigation of such a technique as a supplementary screening device for AFIT training.

#### 4. CONCLUSIONS

This survey of two classes of the Air Force Institute of Technology showed that 78 percent were still in service at the time of the survey. Fifty-four percent of the students received an advanced degree as a result of their training. Excluding meteorology degrees, 48 percent of these advanced degrees were in the scientific and engineering subject areas.

A statistical analysis of officers who had remained in or had left the Air Force indicated, older, regular, married officers tended to remain in service while younger, ROTC graduates in engineering and scientific career fields were more likely to leave the Air Force. Information available prior to attending AFIT was quite predictive of retainability. The retainability potential of each officer was computed based on pertinent characteristics and the utility of such information was shown.

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<sup>3</sup> The raw-score regression equation for predicting retention of non-weather AFIT students is:

$$y = .390 + .195X_1 + .080X_3 - .019X_5 - .018X_6 - .029X_9 - .037X_{10} - .156X_{13} \\ + .012X_{14} - .168X_{15} - .010X_{17} + .090X_{19} - .010X_{20} - .010X_{24}$$

The subscripts of the predictor variables correspond to the variable numbers as listed in Table 22, Appendix II.

<sup>4</sup> The raw-score regression equation for predicting retention of officers receiving training in the meteorology area is:

$$y = .737 + .671X_1 + .205X_3 + .021X_4 - .218X_5 - .189X_7 + .071X_8 - .312X_{10} - .175X_{11} \\ + .165X_{12} - .444X_{13} - .003X_{14} - .035X_{19} - .056X_{22} + .132X_{23} - .102X_{24}$$

The most frequently given reasons for leaving the Air Force were: promotions not based on merit; better civilian opportunities; low pay; and unsettled family life. Officers still in the Air Force felt that retirement possibilities and time invested were the chief reasons for staying in service at this point in their careers. Conversely, a high-paying job in industry, loss of flight pay, or missing out on promotion were reasons which might motivate these officers to leave the Air Force.

The retainability of AFIT students could be improved by the selection of students who possess the characteristics identified in this study. The prime reason for a former AFIT student leaving the Air Force is dissatisfaction with the promotion system. The fact that non-monetary aspects of the work situation were considered more important than low pay as a determiner of job satisfaction suggests the possibility that retention can be increased through improved personnel policies consistently applied.

#### REFERENCES

- Deutsch and Shea, Inc. *A new look at engineer attitudes*. New York: Industrial Relations News, 1961.
- Trites, D.K. & Cymoure, R.N. *Characteristics of officers graduating in 1954 from Air Force Institute of Technology programs*. Lackland Air Force Base, Texas: Personnel Laboratory, Wright Air Development Division, April 1960. (WADD-TN-60-46, ASTIA Document AD-237 212).

**APPENDIX I**

**SURVEY FORMS**

**In-Service Form**

**SURVEY OF**

**AIR FORCE INSTITUTE OF TECHNOLOGY GRADUATES**

**1955 - 1956 CLASSES**

**This survey pertains to your training at the Air Force Institute of Technology and your subsequent career. The purpose of the survey is to obtain information which will enable the Air Force to more effectively utilize individuals who have received such training.**

**On the following pages you will be asked to provide certain biographical information plus your opinion about policies and working conditions which are found in the Air Force or in civilian life. All information given will be treated confidentially and will be used for research purposes only.**

PERSONAL DATA

Present Grade \_\_\_\_\_

Present Primary AFSC \_\_\_\_\_

Present Duty AFSC \_\_\_\_\_

Regular \_\_\_\_\_

Reserve \_\_\_\_\_

Present Command \_\_\_\_\_

What is your rating and flying status?	On Flying Status	Not on Flying Status
Pilot	_____	_____
Navigator	_____	_____
Observer	_____	_____
Non-rated or other	_____	_____

How did you obtain your first active duty commission?

USAFA, USAMA, USNA	_____
Aviation Cadet	_____
OCS	_____
ROTC	_____
Direct Appointment	_____
Other (specify)	_____

If ROTC or Aviation Cadet, were you a Distinguished Graduate?

Not applicable	_____
Yes	_____
No	_____

In what year were you commissioned? \_\_\_\_\_

Has your service been continuous or have you had a break in service?

Continuous	_____
Break in service	_____

If you had college training before entering AFIT,

What was your Major Academic Field?	_____
What academic degree did you attain?	_____

THE FOLLOWING QUESTIONS PERTAIN TO THE TIME WHEN YOU ENTERED THE AIR FORCE INSTITUTE OF TECHNOLOGY

What was your grade? \_\_\_\_\_ What was your age? \_\_\_\_\_

What was your Primary AFSC? \_\_\_\_\_ Your Duty AFSC? \_\_\_\_\_

How many years of Active Federal Military Service did you have at that time? \_\_\_\_\_

What was your marital status? \_\_\_\_\_ How many dependents did you have? \_\_\_\_\_

What was your Aeronautical Rating? \_\_\_\_\_

Were you on flying status? \_\_\_\_\_

Had you previously attended the Squadron Officers School? Yes \_\_\_ No \_\_\_  
the Command and Staff School? Yes \_\_\_ No \_\_\_

What was your command? \_\_\_\_\_

Where did your Air Force Institute of Technology training take place?

Resident program at Wright-Patterson AFB	_____
Civilian institution	_____
Industrial concern	_____

What academic level did you attain as a result of participating in the AFIT program?

- Not applicable \_\_\_\_\_
- 4 years of college - no degree \_\_\_\_\_
- Bachelors Degree or its equivalent \_\_\_\_\_
- Postgraduate college, 1-2 years, no degree \_\_\_\_\_
- Masters Degree \_\_\_\_\_
- Masters Degree plus 1-2 years \_\_\_\_\_
- Ph.D Degree or its equivalent \_\_\_\_\_
- Postgraduate college, 3-4 years, no degree \_\_\_\_\_

Was your AFIT training a continuation in the same major field as your training while a civilian? Yes \_\_\_ No \_\_\_ Does not apply \_\_\_

If you were in an academic program what was your grade point average? \_\_\_\_\_  
Not applicable \_\_\_\_\_.

In which Air Force Institute of Technology program were you enrolled?

- Engineering and Science \_\_\_\_\_
- Management and Social Science \_\_\_\_\_
- Training-with-Industry \_\_\_\_\_
- Meteorology \_\_\_\_\_
- Special Program \_\_\_\_\_

Was the program at the graduate or undergraduate level?

- Undergraduate \_\_\_\_\_
- Graduate \_\_\_\_\_
- Not applicable \_\_\_\_\_

In what year did you complete the Air Force Institute of Technology training?

1955 \_\_\_\_\_ 1956 \_\_\_\_\_ Which specific course did you complete? \_\_\_\_\_

THE FOLLOWING QUESTIONS PERTAIN TO THE TIME AFTER YOUR ASSIGNMENT TO THE AIR FORCE INSTITUTE OF TECHNOLOGY

Upon completion of your training, to which command were you assigned? \_\_\_\_\_

During your first assignment after your AFIT training, what was your  
Primary AFSC \_\_\_\_\_ Your Duty AFSC \_\_\_\_\_

Did this assignment make use of your AFIT training?

- Very much \_\_\_\_\_
- Quite a lot \_\_\_\_\_
- To a limited extent \_\_\_\_\_
- Slightly \_\_\_\_\_
- Not at all \_\_\_\_\_

In general, how satisfied were you with the type of work you had to perform while in this position?

- Very much \_\_\_\_\_
- Quite a lot \_\_\_\_\_
- Slightly \_\_\_\_\_
- Not at all \_\_\_\_\_

If rated, how much opportunity did you have to fly while in this assignment?

- Non-rated, not applicable \_\_\_\_\_
- As much as I wanted \_\_\_\_\_
- More than enough to maintain proficiency \_\_\_\_\_
- Just enough to maintain proficiency \_\_\_\_\_
- Not enough to maintain proficiency \_\_\_\_\_

Approximately how many months did you have this assignment before being given a PCS? \_\_\_\_\_

If your present assignment is different from the one you had immediately following your AFIT training, does it make use of your AFIT training?

Very much	_____
Quite a lot	_____
To a limited extent	_____
Slightly	_____
Not applicable	_____
Not at all	_____

NOTE: In the following questions you are to write your answers in the space following each question. Please feel free to express your opinion as your comments will be treated confidentially.

In which ways could the Air Force have improved or facilitated your training?

At this point in your career, what are the main reasons for staying in the Air Force?

At the present time, under what conditions would you consider leaving the Air Force?

Which would make an Air Force career more attractive for officers - an increase in basic pay or a comparable improvement in fringe benefits?

Pay increase \_\_\_\_\_  
Fringe benefit increase \_\_\_\_\_

What would you consider a reasonable service commitment which should be incurred as a result of attendance at the Air Force Institute of Technology?

One year \_\_\_\_\_  
Two years \_\_\_\_\_  
Three years \_\_\_\_\_  
Four years \_\_\_\_\_  
Five years or more \_\_\_\_\_

If you plan to stay in the service until retirement how long do you expect to stay in?

I do not plan to remain on active duty until retirement \_\_\_\_\_  
20 years \_\_\_\_\_  
21-24 years \_\_\_\_\_  
25-27 years \_\_\_\_\_  
28 years or more \_\_\_\_\_

In terms of the Air Force's desire to retain highly trained officers, what is the best time for an officer to attend the Air Force Institute of Technology?

Immediately after entry on active duty \_\_\_\_\_  
After completing an initial military assignment \_\_\_\_\_  
After five to seven years of active duty \_\_\_\_\_

In your opinion, what effect has your Air Force Institute of Technology training had on your career?

Very helpful \_\_\_\_\_  
Helped to a certain extent \_\_\_\_\_  
Made no difference \_\_\_\_\_  
Did more harm than good \_\_\_\_\_

How do you feel about officers on flying status having to meet Air Force minimum flying hours requirements while attending AFIT?

I feel flying requirements should be waived while attending AFIT \_\_\_\_\_  
I feel flying requirements should not be waived while attending AFIT \_\_\_\_\_

Complete the following two pages

People differ in what they want from their jobs. Rate the following statements in terms of their IMPORTANCE TO YOU. Indicate your answers by circling the appropriate letter following each statement.

- A. Extremely important
- B. Somewhat above average in importance
- C. Of average importance
- D. Somewhat below average in importance
- E. Not important at all

Adequate job security	A	B	C	D	E
Work under consistent and intelligent personnel policies	A	B	C	D	E
Have a say in what happens to you	A	B	C	D	E
Feel that you are accomplishing something	A	B	C	D	E
Do a great deal of traveling	A	B	C	D	E
Become proficient in a specialized type of work	A	B	C	D	E
Be in a competitive situation	A	B	C	D	E
Obtain a good salary	A	B	C	D	E
Have a definite work schedule	A	B	C	D	E
Settle down in a certain area	A	B	C	D	E
Be promoted on the basis of ability	A	B	C	D	E
Spend a lot of time with my family	A	B	C	D	E
Advance at a fairly rapid rate	A	B	C	D	E
Be able to retire at an early age	A	B	C	D	E
Have competent supervisors	A	B	C	D	E
Make a lot of money	A	B	C	D	E
Be given recognition for work well done	A	B	C	D	E
Continue flying	A	B	C	D	E
Do work which my wife and family can be proud of	A	B	C	D	E
Have prestige or social status	A	B	C	D	E
Keep very busy	A	B	C	D	E
Frequent change of duties	A	B	C	D	E

What is the POSSIBILITY OF OBTAINING the following rewards or working conditions WHILE IN THE AIR FORCE? Use the following scale and indicate your answers by circling the appropriate letter following each statement.

- A. Very good
- B. Better than average
- C. Average
- D. Less than average
- E. None at all

Frequent change of duties	A	B	C	D	E
Keep very busy	A	B	C	D	E
Have prestige or social status	A	B	C	D	E
Do work which my wife and family can be proud of	A	B	C	D	E
Continue flying	A	B	C	D	E
Be given recognition for work well done	A	B	C	D	E
Make a lot of money	A	B	C	D	E
Have competent supervisors	A	B	C	D	E
Be able to retire at an early age	A	B	C	D	E
Advance at a fairly rapid rate	A	B	C	D	E
Spend a lot of time with my family	A	B	C	D	E
Be promoted on the basis of ability	A	B	C	D	E
Settle down in a certain area	A	B	C	D	E
Have a definite work schedule	A	B	C	D	E
Obtain a good salary	A	B	C	D	E
Be in a competitive situation	A	B	C	D	E
Become proficient in a specialized type of work	A	B	C	D	E
Do a great deal of traveling	A	B	C	D	E
Feel that you are accomplishing something	A	B	C	D	E
Have a say in what happens to you	A	B	C	D	E
Work under consistent and intelligent personnel policies	A	B	C	D	E
Adequate job security	A	B	C	D	E

**Out-of-Service Form**

**SURVEY OF**

**AIR FORCE INSTITUTE OF TECHNOLOGY GRADUATES**

**1955 - 1956 CLASSES**

**This survey pertains to your training at the Air Force Institute of Technology and your subsequent career. The purpose of the survey is to obtain information which will enable the Air Force to more effectively utilize individuals who have received such training.**

**On the following pages you will be asked to provide certain biographical information plus your opinion about policies and working conditions which are found in the Air Force or in civilian life. All information given will be treated confidentially and will be used for research purposes only.**

PERSONAL DATA

Present Position \_\_\_\_\_

When did you leave the service? \_\_\_\_\_

How many years of Active Duty did you have when you left the service? \_\_\_\_\_

At the time you left the Air Force what was your Primary AFSC \_\_\_\_\_, Duty AFSC \_\_\_\_\_?

Were you on regular or reserve status? Regular \_\_\_\_\_ Reserve \_\_\_\_\_

What was your rating and flying status at the time you left the service? \_\_\_\_\_

	On Flying Status	Not on Flying Status
Pilot	_____	_____
Navigator	_____	_____
Observer	_____	_____
Non-Rated or other	_____	_____

How did you obtain your first active duty commission?

USAFA, USAMA, USNA	_____
Aviation Cadet	_____
OCS	_____
ROTC	_____
Direct Appointment	_____
Other (specify)	_____

If ROTC or Aviation Cadet, were you a Distinguished Graduate?

Not applicable	_____
Yes	_____
No	_____

In what year were you commissioned? \_\_\_\_\_

While you were in the service, was your service continuous or did you have a break in service?

Continuous	_____
Break in service	_____

If you had college training before entering AFIT,

What was your Major Academic Field?	_____
What academic degree did you attain?	_____

THE FOLLOWING QUESTIONS PERTAIN TO THE TIME WHEN YOU ENTERED THE AIR FORCE INSTITUTE OF TECHNOLOGY

What was your grade? \_\_\_\_\_ What was your age? \_\_\_\_\_

What was your Primary AFSC? \_\_\_\_\_ Your Duty AFSC? \_\_\_\_\_

How many years of Active Federal Military Service did you have at that time? \_\_\_\_\_

What was your marital status? \_\_\_\_\_ How many dependents did you have? \_\_\_\_\_

What was your Aeronautical Rating? \_\_\_\_\_

Were you on flying status? \_\_\_\_\_

Had you previously attended the Squadron Officers School?	Yes	_____	No	_____
the Command and Staff School?	Yes	_____	No	_____

What was your command? \_\_\_\_\_

THE FOLLOWING QUESTIONS REFER TO YOUR TRAINING AT THE AIR FORCE INSTITUTE OF TECHNOLOGY

Where did your Air Force Institute of Technology training take place?

Resident program at Wright-Patterson AFB \_\_\_\_\_  
Civilian institution \_\_\_\_\_  
Industrial concern \_\_\_\_\_

What academic level did you attain as a result of participating in the AFIT program?

Not applicable \_\_\_\_\_  
4 years of college - no degree \_\_\_\_\_  
Bachelors Degree or its equivalent \_\_\_\_\_  
Postgraduate college, 1-2 years, no degree \_\_\_\_\_  
Masters Degree \_\_\_\_\_  
Masters Degree plus 1-2 years \_\_\_\_\_  
Ph.D degree or its equivalent \_\_\_\_\_  
Postgraduate college, 3-4 years, no degree \_\_\_\_\_

Was your AFIT training a continuation in the same major academic field as your training while a civilian? Yes \_\_\_ No \_\_\_ Does not apply \_\_\_\_\_

If you were in an academic program what was your grade point average? \_\_\_\_\_  
Not applicable \_\_\_\_\_.

In which type of Institute of Technology program were you enrolled?

Engineering and Science \_\_\_\_\_  
Management and Social Science \_\_\_\_\_  
Training-with-Industry \_\_\_\_\_  
Meteorology \_\_\_\_\_  
Special Program \_\_\_\_\_

Was the program at the graduate or undergraduate level?

Undergraduate \_\_\_\_\_  
Graduate \_\_\_\_\_  
Not applicable \_\_\_\_\_

What year did you complete the Air Force Institute of Technology? 1955 \_\_\_ 1956 \_\_\_

Which specific course did you complete? \_\_\_\_\_

THE FOLLOWING QUESTIONS PERTAIN TO THE TIME AFTER YOUR ASSIGNMENT TO THE AIR FORCE INSTITUTE OF TECHNOLOGY

Upon completion of your training, to which command were you assigned? \_\_\_\_\_

During your first assignment after your AFIT training, what was your Primary AFSC \_\_\_\_\_, Your Duty AFSC \_\_\_\_\_.

Did this assignment make use of your AFIT training?

Very much \_\_\_\_\_  
Quite a lot \_\_\_\_\_  
To a limited extent \_\_\_\_\_  
Slightly \_\_\_\_\_  
Not at all \_\_\_\_\_

In general, how satisfied were you with the type of work you had to perform while in this position?

Very much \_\_\_\_\_  
Quite a lot \_\_\_\_\_  
Slightly \_\_\_\_\_  
Not at all \_\_\_\_\_

If rated, how much opportunity did you have to fly while in this assignment?

- Non-rated, not applicable \_\_\_\_\_
- As much as I wanted \_\_\_\_\_
- More than enough to maintain proficiency \_\_\_\_\_
- Just enough to maintain proficiency \_\_\_\_\_
- Not enough to maintain proficiency \_\_\_\_\_

Approximately how many months did you have this assignment before being given a FCS? \_\_\_\_\_

**NOTE:** In the following questions you are to write your answers in the space following each question. Please feel free to express your opinion as your comments will be treated confidentially.

In which ways could the Air Force have improved or facilitated your training?

When and why did you decide to leave the Air Force?

Under what conditions would you decide to return to the Air Force?

Is there anything different about the way your present company treats you as compared to how the Air Force treated you?

How many jobs have you had since leaving the Air Force?

One	_____
Two	_____
Three	_____
Four or more	_____

Does your present job make use of your Institute of Technology training?

Very much	_____
Quite a bit	_____
To a limited extent	_____
Slightly	_____
Not at all	_____

How does your present salary compare with the pay and benefits you would be receiving if you had remained in the Air Force?

A lot more	_____
Somewhat better	_____
About the same	_____
A little less	_____
Quite a bit less	_____

Which would make an Air Force career more attractive for officers - an increase in basic pay or a comparable improvement in fringe benefits?

- Pay increase \_\_\_\_\_
- Fringe benefit increase \_\_\_\_\_

What would you consider a reasonable service commitment which should be incurred as a result of attendance at the Air Force Institute of Technology?

- One year \_\_\_\_\_
- Two years \_\_\_\_\_
- Three years \_\_\_\_\_
- Four years \_\_\_\_\_
- Five years or more \_\_\_\_\_

In terms of the Air Force's desire to retain highly trained officers, what is the best time for an officer to attend the Air Force Institute of Technology?

- Immediately after entry on active duty \_\_\_\_\_
- After completing an initial military assignment \_\_\_\_\_
- After five to seven years of active duty \_\_\_\_\_

In your opinion, what effect did your AFIT training have on your Air Force career?

- Very helpful \_\_\_\_\_
- Helped to a certain extent \_\_\_\_\_
- Made no difference \_\_\_\_\_
- Did more harm than good \_\_\_\_\_

How do you feel about officers on flying status having to meet Air Force minimum flying hours requirements while attending AFIT?

- I feel flying requirements should be waived while attending AFIT \_\_\_\_\_
- I feel flying requirements should not be waived while attending AFIT \_\_\_\_\_

Complete the following two pages

People differ in what they want from their jobs. Rate the following statements in terms of their IMPORTANCE TO YOU. Indicate your answers by circling the appropriate letter following each statement.

- A. Extremely important
- B. Somewhat above average in importance
- C. Of average importance
- D. Somewhat below average in importance
- E. Not important at all

Adequate job security	A	B	C	D	E
Work under consistent and intelligent personnel policies	A	B	C	D	E
Have a say in what happens to you	A	B	C	D	E
Feel that you are accomplishing something	A	B	C	D	E
Do a great deal of traveling	A	B	C	D	E
Become proficient in a specialized type of work	A	B	C	D	E
Be in a competitive situation	A	B	C	D	E
Obtain a good salary	A	B	C	D	E
Have a definite work schedule	A	B	C	D	E
Settle down in a certain area	A	B	C	D	E
Be promoted on the basis of ability	A	B	C	D	E
Spend a lot of time with my family	A	B	C	D	E
Advance at a fairly rapid rate	A	B	C	D	E
Be able to retire at an early age	A	B	C	D	E
Have competent supervisors	A	B	C	D	E
Make a lot of money	A	B	C	D	E
Be given recognition for work well done	A	B	C	D	E
Continue flying	A	B	C	D	E
Do work which my wife and family can be proud of	A	B	C	D	E
Have prestige or social status	A	B	C	D	E
Keep very busy	A	B	C	D	E
Frequent change of duties	A	B	C	D	E

What is the POSSIBILITY OF OBTAINING the following rewards or working conditions WHILE IN THE AIR FORCE? Use the following scale and indicate your answers by circling the appropriate letter following each statement.

- A. Very good
- B. Better than average
- C. Average
- D. Less than average
- E. None at all

Frequent change of duties	A	B	C	D	E
Keep very busy	A	B	C	D	E
Have prestige or social status	A	B	C	D	E
Do work which my wife and family can be proud of	A	B	C	D	E
Continue flying	A	B	C	D	E
Be given recognition for work well done	A	B	C	D	E
Make a lot of money	A	B	C	D	E
Have competent supervisors	A	B	C	D	E
Be able to retire at an early age	A	B	C	D	E
Advance at a fairly rapid rate	A	B	C	D	E
Spend a lot of time with my family	A	B	C	D	E
Be promoted on the basis of ability	A	B	C	D	E
Settle down in a certain area	A	B	C	D	E
Have a definite work schedule	A	B	C	D	E
Obtain a good salary	A	B	C	D	E
Be in a competitive situation	A	B	C	D	E
Become proficient in a specialized type of work	A	B	C	D	E
Do a great deal of traveling	A	B	C	D	E
Feel that you are accomplishing something	A	B	C	D	E
Have a say in what happens to you	A	B	C	D	E
Work under consistent and intelligent personnel policies	A	B	C	D	E
Adequate job security ●	A	B	C	D	E

**APPENDIX II**

**STATISTICAL TABULATIONS**

**TABLE 1. Grade at Time of Entry Into AFIT**

Grade	Still in		Out of		Combined		Retention	
	Air Force		Air Force				by Grade	
	N	%	N	%	N	%	N	%
Colonel	1	0+	0	0	1	0+	2	100
Lt Colonel	124	11	5	2	129	9	124	96
Major	308	27	20	8	328	24	308	94
Captain	430	38	33	14	463	33	430	93
1st Lt	190	17	39	16	229	17	190	83
2nd Lt	88	8	144	60	232	17	88	38

**TABLE 2. Length of Service (TAFMS) at Time of Entry into AFIT**

TAFMS (In Months)	In	Out	Cumulative Combined	Cumulative Percent	% Retained by TAFMS
0-12	94	139	233	16.8	40
13-24	30	14	277	20.0	68
25-36	30	13	320	23.1	70
37-48	49	13	382	27.6	79
49-60	63	5	450	32.5	93
61-72	79	13	542	39.2	86
73-84	103	7	652	47.1	94
85-96	112	3	767	55.5	97
97-108	92	2	861	62.3	98
109-120	77	4	942	68.1	95
121-132	95	4	1041	75.3	96
133-144	132	5	1178	85.2	96
145-156	86	4	1268	91.7	96
157-168	52	8	1328	96.0	87
169-180	30	3	1361	98.4	91
181-192	8	1	1370	99.0	89
193-204	6	1	1377	99.5	86
205-216	3	0	1380	99.9	100
217 + Above	0	2	1382	100.0	0

**TABLE 3. Source of Commission**

Source	In	Out	% Retained by Source
Service Academy	104	21	83
Aviation Cadet	615	25	96
OCS	134	14	91
ROTC	210	165	56
Direct Appointment	56	9	86
Other	22	7	76

TABLE 4. Command Assignment at Time of Entry into AFIT

Command	In	Out	% Retained
			By Command
Alaskan Air Command (AAC)	15	2	88
Air Defense Command (ADC)	62	2	97
US Air Forces in Europe (USAFE)	42	0	100
AF Accounting & Finance Center (AFAFC)	2	0	100
AF Logistics Command (AFLC)	82	9	90
AF Systems Command (AFSC)	164	41	80
Air Training Command (ATC)	152	14	92
Air University (AU)	74	94	44
Continental Air Command (CONAC)	29	10	74
Headquarters Command (Hq USAF)	108	7	94
Military Air Transport Service (MATS)	159	32	83
Pacific Air Forces (PAF)	57	6	90
Strategic Air Command (SAC)	105	13	89
Tactical Air Command (TAC)	72	6	92
USAF Security Service (USAFSS)	9	1	90
AF Communications Service (AFCS)	2	0	100
Northeast Air Command (NEAC)	5	0	100

TABLE 5. Prior Educational Status of AFIT Graduates by Academic Area

Major Academic Field	In-Service			Out-of-Service			Percent Retained		
	Some	Post-		Some	Post-		Some	Post-	
	Col-lege	Coll-Grad	Grad Study	Col-lege	Coll-Grad	Grad Study	Col-lege	Coll-Grad	Grad Study
Engineering									
General	65	41	0	5	14	2	93	75	0
Aeronautical	19	47	2	3	15	2	86	76	50
Electrical	23	47	0	1	28	0	96	63	0
Mechanical	25	73	1	0	17	0	100	81	100
Civil	16	22	1	0	11	0	100	67	100
Chemical	8	12	1	1	5	0	89	71	100
Other	6	12	1	0	8	0	100	60	100
Physics	9	27	3	0	19	0	100	59	100
Chemistry	11	32	1	1	24	0	92	57	100
Biology	1	12	1	0	3	0	100	80	100
Meteorology	1	7	0	0	0	0	100	100	100
Geology	2	9	0	0	3	0	100	75	100
General Science	5	10	0	0	1	0	100	91	0
Metalurgy & Ceramics	1	3	0	0	3	0	100	50	0
Mathematics	19	33	2	1	31	1	95	52	67
Business & Management	57	98	9	1	4	0	98	94	100
Accounting	6	14	2	0	1	0	100	93	100
Transportation	1	4	2	0	1	0	100	80	100
Economics	5	22	0	0	1	0	100	96	0
Political Science	3	7	1	0	1	0	100	88	100
Law	0	1	0	0	1	0	0	50	0
Psychology	3	8	0	0	3	0	100	67	0
Sociology	1	10	1	0	1	0	100	91	100
Education	13	28	2	0	0	0	100	100	100
Geography	1	2	0	0	1	0	100	67	0
Journalism	0	2	1	0	0	0	0	100	100
Military Science	21	79	0	0	11	0	100	88	0
Other	94	30	1	8	6	2	90	83	33
Total	416	692	32	21	213	7	95	76	82

**TABLE 6. Aero Rating and Flying Status at Time of Entry into AFIT**

Aero Rating	On Flying Status			Not On Flying Status		
	In	Out	% Retained	In	Out	% Retained
Command Pilot	27	0	100	0	0	--
Senior Pilot	217	10	96	6	0	100
Pilot	247	14	95	35	2	95
Master AO	5	0	100	1	0	100
Master Nav	1	0	100	0	0	--
Senior AO	16	4	80	16	3	84
Senior Nav	17	1	94	1	1	50
Navigator	62	2	97	23	2	92
Flight Surgeon	0	1	0	0	0	--
Non-Rated	2	2	50	465	199	70

**TABLE 7. Location of AFIT Training**

Location	In		Out		Combined		Percent Retained
	N	Percent	N	Percent	N	Percent	
Resident (Wright-Patterson AFB)	291	25	44	18	335	24	87
Civilian Institution	784	69	190	79	974	70	80
Training-Within-Industry	66	6	7	3	73	6	90

**TABLE 8. Type of AFIT Program in which Enrolled**

Program	In		Out		Combined		Percent Retained
	N	Percent	N	Percent	N	Percent	
Engineering & Science	474	42	120	50	594	43	80
Management & Social Science	403	35	18	7	421	31	96
Training-with-Industry	69	6	7	3	76	5	91
Meteorology	98	9	86	36	184	13	53
Special Program	97	8	9	4	106	8	92

Table 9. Educational Status Attained During AFIT by Academic Area

Major Academic Field	In-Service						Out-of-Service						Percent Still in Air Force					
	Some			Post-			Some			Post-			Some			Post-		
	Col-lege	Coll-Grad	MA or PhD*	Coll-Grad	MA or PhD*	Post-Study	Col-lege	Coll-Grad	MA or PhD*	Coll-Grad	MA or PhD*	Post-Study	Col-lege	Coll-Grad	MA or PhD*	Coll-Grad	MA or PhD*	Post-Study
Engineering	0	8	0	0	9	0	1	0	0	1	0	0	0	100	0	100	0	100
General	8	41	10	10	61	0	1	1	8	8	20	0	89	98	56	98	75	0
Aeronautical	28	69	15	15	51	0	2	9	4	4	26	0	93	88	79	88	66	0
Electrical	1	6	4	4	10	0	0	1	1	1	2	0	100	86	80	86	83	0
Mechanical	19	19	2	2	11	0	2	1	0	0	3	0	90	95	100	95	79	0
Civil	0	2	0	0	2	0	0	0	0	0	0	0	0	100	0	100	0	100
Chemical	2	5	7	7	33	0	0	0	2	2	7	0	100	100	78	100	83	0
Other	0	5	0	0	12	0	0	0	0	0	9	0	0	100	0	100	0	57
Physics	0	0	2	2	13	0	0	0	1	1	11	0	0	0	67	0	54	0
Chemistry	0	2	1	1	3	0	0	0	0	0	2	0	0	100	100	0	60	0
Biology	5	17	54	54	22	0	12	10	56	8	8	0	29	63	49	63	73	0
Meteorology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geology	0	1	1	1	2	0	0	0	0	0	0	0	0	100	100	0	100	0
General Science	0	1	0	0	3	0	0	0	1	0	0	0	0	100	0	100	0	100
Metallurgy & Ceramics	2	4	2	2	4	0	0	0	0	0	10	0	100	100	100	0	29	0
Mathematics	49	84	29	29	234	0	2	3	1	9	9	0	96	97	97	96	96	0
Business & Management	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Accounting	13	0	1	1	1	0	0	0	0	0	1	0	100	0	100	0	50	0
Transportation	0	2	0	0	6	0	0	0	0	0	0	0	0	100	0	100	0	100
Economics	0	13	3	3	13	0	0	0	0	0	0	0	0	100	100	0	100	0
Political Science	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Law	0	0	1	1	4	0	0	0	0	0	4	0	0	0	100	0	50	0
Psychology	0	1	0	0	0	0	0	0	0	0	0	0	0	100	0	100	0	0
Sociology	0	3	0	0	9	0	0	1	0	0	0	0	0	75	0	75	0	100
Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Geography	1	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
Journalism	0	7	0	0	18	0	0	0	0	0	1	0	0	100	0	100	0	95
Military Science	17	7	9	9	37	0	2	0	3	2	2	0	89	100	75	100	95	0
Other																		

\* The PhD degree was earned by 5 in-service and 7 out-of-service students.

TABLE 10. Command Assignment After AFIT by Major Academic Area (In Service)

Academic Area	US			USAF			Hq			USAF			Total					
	AAC	AFA	ADC	AFC	AFLC	AFSC	ATC	AU	CONAC	USAF	MATS	PAF		SAC	TAC	SS	NEAC	Other
Engineering	1	2	3	8	3	3	3										17	
General	2	9	3	4	79	1	3										120	
Aeronautical	3	13	11	10	83	1	3										163	
Electrical		2			10	1	1										21	
Mechanical					18		1										24	
Nuclear	4	6	7	2	3	7											51	
Civil					3												4	
Chemical	1	1	1	4	3												23	
Others					13												17	
Physics					10	1											15	
Chemistry					4												5	
Biology					1	4											5	
Meteorology			2		1	3											98	
Metall & Ceram					4												4	
Mathematics	1	3			4	1											12	
Business Admin	1	1	12	12	2	6	2	1	1	11	13	6	1	1	1	4	73	
Management	7	12	27	67	46	8	7	3	63	16	20	27	9	3	6	2	323	
Transportation	1	1	22	1	1	1	1	1	1	3	2						15	
Psychology					5												5	
Education	1						2	4			3		2				12	
Military Science	1	2	6			1			4	7	3				1		25	
All others	3	5	6	7	11	22	4	7	14	6	13	9	5		1	1	114	
Total	23	13	57	81	114	322	35	27	9	134	129	81	55	26	9	21	5	1141

TABLE 11. Command Assignment After AFIT by Major Academic Area (Out of Service)

Academic Area	US			USAF			Hq			USAF			Other	Total			
	AAC	AFA	ADC	AFF	AFSC	ATC	AU	CONAC	USAF	MATS	PAF	SAC			TAC	SS	NEAC
Engineering																	
General					1										1	2	
Aeronautical		1	2	19	1	3			1	1		1				30	
Electrical	1	2		33	1				2	1		1				41	
Mechanical				4												4	
Nuclear				5					1							6	
Civil							1				2			1		6	
Chemical																	
Others																3	
Physics				6					2	1						9	
Chemistry				8					2	1						12	
Biology				2												2	
Meteorology				1			1				1	5	2		1	86	
Metall & Ceram																1	
Mathematics				7		1			1							10	
Business Admin		1	1													2	
Management	1	2	3	3	1				1	1		1				13	
Transportation											1					1	
Psychology				4												4	
Education													1			1	
Military Science				3	1					1	1					1	
All others	1															7	
Total	4	5	6	10	96	3	6	1	10	80	3	10	4	0	2	1	241

**TABLE 12. Length of First Assignment After AFIT**

Months Assigned	In-Service		Out-of-Service		Percent Retained
	Cumulative		Cumulative		
	N	Percent	N	Percent	
6 or less	35	3	22	10	61
7-12	115	13	47	32	76
13-18	105	22	19	41	85
19-24	131	33	21	51	86
25-30	70	39	25	62	74
31-36	294	65	56	88	84
37-42	91	73	13	94	88
43-48	167	88	8	98	95
49 or more	133	100	5	100	96

**TABLE 13. Use of AFIT Training in Assignments**

Extent of Use	Percent Marking Each Response			
	First Assignment		Second Assignment	
	In	Out	In	Out
Very much	33	49	34	46
Quite a lot	28	18	24	17
To a limited extent	23	22	24	10
Slightly	09	07	10	10
Not at all	07	05	08	17

**TABLE 14. Job Satisfaction on Post-AFIT Assignment**

Degree of Satisfaction	In-Service		Out-of-Service		Percent Retained
	N	Percent	N	Percent	
Very much	597	52	92	38	87
Quite a lot	310	27	87	36*	78
Slightly	166	15	42	17	80
Not at all	68	06	20	08	77

**TABLE 15. Suggestions for Improving or Facilitating AFIT Training**

*(Based on responses of 1141 in-service and 241 out-of-service respondents)*

Suggestion	Percent Mentioning	
	In	Out
None given	56	59
Allow students to remain in school longer	12	8
Give more choice in choosing courses or schools	7	6
Provide closer contact between student and Air Force	3	4
Provide pretraining orientation	5	2
Give training earlier	4	0
Improve quality of instructions	4	3
More practical application, less theory	3	10
Standardize the programs	1	3

**TABLE 16. Why AFIT Graduates Leave the Air Force**

*(Based on responses of 241 out-of-service respondents)*

Reason	Percent Mentioning
Promotion not based on merit	25
Could get better job as a civilian	14
Pay was inadequate	12
Could not become part of a stable community	11
Training was not utilized in assignments	10
Desired to continue formal education	10
Never intended to stay in	9
No recognition of professional work	9
Incompetent or poor supervisors	8
Inconsistent policies and procedures	7
Poor promotional prospects	5
Could not spend enough time with family	4
Malassigned	4
No preference of assignment possible	4
Discrimination against non-rated officers	3

**TABLE 17. Number of Civilian Jobs Held by AFIT Students Who Left the Air Force**

*(Based on responses of 241 out-of-service respondents)*

No. of Jobs	N	Percent
One	159	66
Two	61	25
Three	16	7
Four or more	3	1
Other	2	1

**TABLE 18. Treatment of Personnel in Industry as Compared to the Air Force**

*(Based on responses of 241 out-of-service respondents)*

Difference	Percent Mentioning
More personal freedom	34
Promoted on basis of ability	31
More respect for ability	30
More money	17
Able to apply initiative	14
None	10
Better utilization of abilities	10
More competent supervisors	7
Able to settle down	7
Better equipment--working conditions	3
Faster promotions	3

**TABLE 19. Conditions Under Which Ex-Officers Would Return to the Air Force**

*(Based on responses of 241 out-of-service respondents)*

Condition	Percent Mentioning
State of War	31
None stated	25
More pay	18
Choice of assignment	16
Promotion based upon ability	7
If needed	7
More responsibility	6
Involuntary recall	4
Regular commission	2

**TABLE 20. Why AFIT Graduates Stay in the Air Force**  
*(Based on responses of 1141 in-service respondents)*

<b>Reason</b>	<b>Percent Mentioning</b>
Retirement	33
Too much time invested	21
Job satisfaction	20
Like Military life	18
Hold interesting assignment	11
Fulfilling a need of the Air Force	10
Possibility of more education	9
Job security	8
Promotion possibilities	7
Challenge	7
Travel opportunities	7
Patriotism	7
Enjoyable association	7
Flying	7
Good standard of living	6
Desire Air Force career	6

**TABLE 21. Reasons Which Would Influence AFIT Graduates to Leave the Service**  
*(Based on responses of 1141 in-service respondents)*

<b>Reason</b>	<b>Percent Mentioning</b>
High paying job with industry	24
Removal of flight pay	18
No opportunity for promotion	16
Eligible to retire	14
Undesirable assignment	13
Low pay-no prospects of a pay raise	7
Change in retirement policies	6
Reduction in fringe benefits	5
Separation from family	5
Only if forced out	5
Failure to get professional type assignments	5
Lack of recognition	4
When personal sacrifice becomes too great	4
Inconsistent personnel policies	4

TABLE 22. Variables Used in Prediction of AFIT Student Retention

Var No.	Description of Variable
<b>INFORMATION AVAILABLE PRIOR TO ENTRY INTO AFIT</b>	
1	<b>Regular-Reserve.</b> 1 if regular; 0 otherwise.
<b>Source of Commission</b>	
2	<i>Academy Graduate.</i> 1 if Academy graduate; 0 otherwise.
3	<i>Cadet-OCS.</i> 1 if graduate of Aviation Cadets or OCS; 0 otherwise.
4	<i>ROTC.</i> 1 if graduate of ROTC; 0 otherwise.
5	<b>Continuous Service.</b> 1 if service had been continuous; 0 otherwise.
<b>Educational Data</b>	
6	<i>Engineering--Science Major Academic Field.</i> 1 if major academic field was in engineering or science; 0 otherwise.
7	<i>Business Major Academic Field.</i> 1 if major academic field was in business-management; 0 otherwise.
8	<i>Other Major Academic Field.</i> 1 if major academic field was in neither engineering-science nor business-management; 0 otherwise.
9	<i>Prior Educational Level.</i> 1 if bachelor degree or higher; 0 otherwise.
<b>Grade</b>	
10	<i>Major or Higher.</i> 1 if grade was major or higher; 0 otherwise.
11	<i>Captain.</i> 1 if grade was captain; 0 otherwise.
12	<i>1st Lt.</i> 1 if grade was 1st Lt; 0 otherwise
13	<i>2nd Lt.</i> 1 if grade was 2nd Lt; 0 otherwise.
14	<b>Age.</b> Continuous variable; age in years.
<b>Career Field</b>	
15	<i>Engineering and Science Career Field.</i> 1 if Primary AFSC was in engineering or science; 0 otherwise.
16	<i>Operations Career Field.</i> 1 if Primary AFSC was in operations; 0 otherwise.
17	<i>Other Career Field.</i> 1 if Primary AFSC was in neither engineering-science nor operations; 0 otherwise.
18	<b>TAFMS.</b> Continuous variable; number of months of Total Active Federal Military Service.
<b>Family</b>	
19	<i>Marital Status.</i> 1 if married; 0 otherwise.
20	<i>Number of Dependents.</i> Continuous variable; number of dependents.
<b>Aero Rating</b>	
21	<i>Aero Rating and Flying Status.</i> 1 if rated and on flying status; 0 otherwise.
22	<i>Aero Rating.</i> 1 if rated and not on flying status; 0 otherwise.
23	<i>Not Rated.</i> 1 if not rated; 0 otherwise.
24	<i>SOS-CSS Attendance.</i> 1 if attended Squadron Officers School or Command and Staff School; 0 otherwise.

TABLE 22 (Continued)

Var No.	Description of Variable
<b>INFORMATION AVAILABLE DURING AFIT</b>	
<b>Place of Instruction</b>	
25	<i>Civilian Institute Training.</i> 1 if training took place at a civilian institution; 0 otherwise.
26	<i>Resident Training.</i> 1 if training took place at Wright-Patterson AFB; 0 otherwise.
27	<i>Training with Industry.</i> 1 if enrolled in training-with-industry program; 0 otherwise.
<b>Educational Variables</b>	
28	<i>Academic Level Attained.</i> 1 if a master's degree or higher was attained at AFIT; 0 otherwise.
29	<i>Continuation of Civilian Training.</i> 1 if area of study was the same as prior educational work; 0 otherwise.
30	<i>Engineering and Scientific Training.</i> 1 if major academic field was in engineering or science; 0 otherwise.
31	<i>Business and Management Training.</i> 1 if major academic field was in business or management; 0 otherwise.
32	<i>Other Training.</i> 1 if major academic field was in neither engineering-science nor business-management; 0 otherwise.
<b>INFORMATION AVAILABLE AFTER COMPLETION OF AFIT</b>	
33	<i>Post-AFIT Command Assignment.</i> 1 if major academic field was in engineering and science, academic level attained was master's degree or higher, and command to which assigned was AFSC or AFLC; 0 otherwise.
34	<i>Post-AFIT Command Assignment.</i> 1 if major academic field was in business-management, academic level attained was bachelor degree or higher, and command to which assigned was AFSC, AFLC, AFAFC, or Hq USAF; 0 otherwise.
35	<i>Post-AFIT Engineering and Scientific Career Field.</i> 1 if Primary AFSC was in engineering or science; 0 otherwise.
36	<i>Post-AFIT Operations Career Field.</i> 1 if Primary AFSC was in operations; 0 otherwise.
37	<i>Post-AFIT Other Career Field.</i> 1 if Primary AFSC was in neither engineering-science nor business-management; 0 otherwise.
38	<i>Utilization of Training.</i> Continuous variable ranging from 1 (very much) to 5 (not at all).
39	<i>Job Satisfaction.</i> Continuous variable ranging from 1 (very much) to 4 (not at all).
40	<i>Flying Opportunity.</i> Continuous variable ranging from 2 (as much as desired) to 5 (not enough to maintain proficiency) for rated personnel; 0 for nonrated.
41	<i>Length of Post AFIT Assignment.</i> Continuous variable; number of months in first assignment following AFIT.
42	<i>In-Out Service.</i> 1 if on active duty as a commissioned officer in the Air Force; 0 otherwise.

**TABLE 23. Prediction of Whether AFIT Students Remain in Service**

Information Used as Predictors	Squared Multiple Correlation( $R^2$ )	
	Weather Officers (N = 147)	All Others (N = 1193)
	All	.7142
Pre-AFIT	.6711	.3258
Pre & During AFIT	.6830	.3356
Post AFIT	.2058	.1445
During-Post AFIT	.2221	.1538
Educational	.1683	.0892
Career Fields	.0195	.1370
Flying Status	.0645	.0590

**TABLE 24. Cumulative Distributions of Retention Potential Scores**

Retention Potential Score	IN		OUT		Retired N
	Cumulative		Cumulative		
	N	Percent	N	Percent	
110-119	9	100	0	100	1
100-109	367	99	1	100	2
90-99	260	65	8	99	4
80-89	263	40	21	93	5
70-79	86	15	13	75	7
60-69	37	6	12	64	2
50-59	15	3	10	54	0
40-49	13	1	7	46	0
30-39	1	0	17	40	0
20-29	0	0	31	26	0

**TABLE 25. Cumulative Distributions of Retention Potential Scores for Weather Officer Sample**

Retention Potential Score	IN		OUT	
	N	Cumulative Percent	N	Cumulative Percent
130-149	6	100		
110-129	9	92		
90-109	15	80		
70-89	29	61	1	100
50-69	7	22		99
30-49	3	13	2	99
10-29	7	9	68	96

6570th Personnel Research Laboratory (AMD),

Lackland AF Base, Tex.

Rpt No. PRL-TDR-63-9. CAREER EXPERIENCES OF AFIT CLASSES OF 1955 AND 1956. Apr 63, vi + 41 p. Unclassified Report incl tables.

To determine the utilization, attitudes, and retainability of officers who participate in AFIT programs, a questionnaire survey was made of the 1955 and 1956 classes. Returns from 82% of the 1380 officers still in service and 62% of the 387 who had left it provided information about training, career experience, and attitude toward the Air Force. Responses showed that those apt to remain in service were older, married, regular officers. Younger officers who were ROTC graduates assigned to engineering and scientific fields were likely to leave the service. Most frequent reasons

- 1 Officer personnel
- 2 Attitudes
- 3 Statistical data
- 4 Mathematical prediction
- 5 Psychometrics
- 6 Students
- 7 Statistical analysis
- 8 Military training
- 9 Air Force Institute of Technology
- I AFSC Project(Task) 6755(01)
- II F.D. Harding, R.L. Downey, 1st Lt, USAF, R.A. Bottenberg
- III Aval fr OTS
- IV In ASTIA collection

given for leaving the Air Force were: promotions not based on merit; better civilian job opportunities; low pay; and unsettled family life. In-service officers' reasons for remaining were retirement advantages and amount of time already invested. They might decide to leave for a high-paying civilian job, loss of flight pay, or missing out on promotion. Non-monetary aspects of the work situation were important determiners of job satisfaction. A Retention Potential Score, using information available before AFIT assignment, applied as a screening device would appreciably increase the retention of AFIT graduates.

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